Examiner's amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. James T. Hoppe on May 6, 2010.

The claims are amended as follows:

1. Claims 3, 6, 8, 17 are cancelled.

2. Claims 2, 4, 5, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 25, 26, 28, 29, 30 31 are original.

3. Claim 1 is amended as follows:

> 1. (currently amended) A composition comprising a polymeric material having a rheology such that the slope (or S) determined by linear least squares regression, of a plot of the natural log of loss modulus (or G") versus natural log of storage modulus (or G') is greater than [0.635*(melt index)+13.2]/[(melt index)+16.6], and wherein the polymeric material has a CDF RI fraction less than 0.23 of a GPC chromatogram which has a molecular weight above 85,000 g/mol, and a CDF LS fraction of more than 0.07 at a conventional GPC molecular weight of 1,750,000 g/mol or greater; wherein the polymeric material has a melt index greater than 10 g/10min and comprises an LDPE having a high molecular weight highly branched component with an MWD greater than 10 and a Mw(absolute)/Mw(GPC) ratio greater than 3.0; and where melt index is determined according to ASTM 1238 condition 190°C/2.16 Kg,.

4. Claim 7 is amended as follows.

7. (currently amended) The composition of Claim ~~6~~ 1 wherein the LDPE is made in an autoclave reactor with chilled ethylene feed below 35°C operating in single phase mode.

5. Claim 9 is amended as follows.

9. (currently amended) The composition of Claim 8 1 wherein the polymeric material has a melt index greater than about 13 g/10min.

6. Claim 10 is amended as follows.

10. (currently amended) The composition of Claim ~~8~~ 1 wherein the polymeric material has a melt index less than about 100 g/10min.

7. Claim 18 is amended as follows.

18. (currently amended) In a process for extruding a polymeric material onto a substrate, the improvement comprising: using a polymeric material of claim 1 ~~having a rheology such that the slope (or S) determined by linear least squares regression, of a natural log-natural log plot of loss modulus (or G") versus storage modulus (or G') is greater than [0.635*(melt index)+13.2]/[(melt index)+16.6].~~

8. Claim 24 is amended as follows.

24. (currently amended) The composition of claim 1 which has been extruded into a film layer such that the extruded [A] polymeric film layer has [~~having~~] a rheology such that the slope (or S) determined by linear least squares regression, of a natural log-natural log plot of loss modulus (or G") versus storage modulus (or G') is greater than (0.665*(melt index)+14.2)/((melt index)+16.6), ~~and wherein the polymeric material has a CDF RI fraction less than 0.23 of a GPC chromatogram which has a molecular weight above 85,000 g/mol, and a CDF LS fraction of more than 0.07 at a conventional GPC molecular weight of 1,750,000 g/mol or greater~~].

9. Claim 27 has been amended as follows.

27. (currently amended) ~~A composition of matter~~ The composition of Claim 1 comprising:

a. from about 10 to about 25 percent by weight of the composition of a high pressure low density type polyethylene resin having a melt index (I_2) less than about 2, a molecular weight distribution greater than about 10, a Mw(absolute)/Mw(GPC) ratio greater than about 3.0, and a melt strength greater than about 24.1 - 18.0*log10(MI); and

b. from about 90 to about 75 percent by weight of the composition, of a Linear PE having a density in the range of 0.97-0.857 g/cc and a melt index (I_2) in the range of 20-100 ;

wherein the MI of the composition of matter is greater than about 10 g/10 minutes.

10. Claims are renumbered as follows:

Claim 1 becomes claim 1.

Claim 2 becomes claim 2, depends on claim 1.

Claim 4 becomes claim 3, depends on claim 1.

Claim 5 becomes claim 4, depends on claim 1.

Claim 7 becomes claim 5, depends on claim 1.

Claim 9 becomes claim 6, depends on claim 1.

Claim 10 becomes claim 7, depends on claim 1.

Claim 12 becomes claim 9, depends on claim 1.

Claim 13 becomes claim 10, depends on claim 9.

Claim 14 becomes claim 11, depends on claim 1.

Claim 15 becomes claim 12, depends on claim 1.

Claim 16 becomes claim 13, depends on claim 1.

Claim 18 becomes claim 14, depends on claim 1.

Claim 19 becomes claim 15, depends on claim 14.

Claim 20 becomes claim 16, depends on claim 14.

Claim 21 becomes claim 17, depends on claim 14.

Claim 22 becomes claim 18, depends on claim 14.

Claim 23 becomes claim 19, depends on claim 14.

Claim 24 becomes claim 20, depends on claim 1.

Claim 25 becomes claim 21, depends on claim 20.

Claim 26 becomes claim 22, depends on claim 20.

Claim 27 becomes claim 23, depends on claim 1.

Claim 28 becomes claim 24, depends on claim 23.

Claim 29 becomes claim 25, depends on claim 23.

Claim 30 becomes claim 26, depends on claim 23.

Claim 31 becomes claim 27, depends on claim 23.

Reasons for Allowance

11. The following is an examiner's statement of reasons for allowance:

12. The present claims are allowable over the "closest" prior art, namely, **Kale et al** (US 5,773,155), **Winslow et al** (US 5,534,472), **Kurtz et al** (US 4,339,507) and **Oswald et al** (US 2003/0032731).

13. Kale et al disclose a composition having high drawdown and reduced neck-in in extrusion process comprising: 75-95%wt of an ethylene-alpha olefin interpolymer composition selected from the group consisting of substantially linear ethylene polymer composition having melt index in the range of 0.1-50 g/10 min (col. 5, lines 5-13; 46-60); 5-25%wt of a high pressure low density (col. 10, lines 20-25) ethylene homopolymer having a melt index of less than 1 g/10 min (col. 9, lines 50-53); a melt strength of at least 9 cN and a MWD of at least 7.6 (col. 5, lines 5-65; col. 9, lines 45-55), wherein the melt index of the inventive composition comprises 1-50 g/10 min (col. 7, lines 15-20). **Kurtz et al** discloses a polymer composition comprising: 20-98%wt of high pressure LDPE homopolymer; 2-80%wt of a linear low density ethylene hydrocarbon copolymer (Abstract), wherein the linear low density ethylene copolymers comprise melt index of more than 10 but less than 100 (col. 8, lines 42-47). **Oswald et al** discloses a blend of: A) linear ethylene homopolymer or interpolymer and B) a branched

homopolymer or interpolymer; wherein the blend comprises: a melt index of 0.05-20 g/10 min and a melt strength of equal or more than 2 (Abstract).

However, neither **Kale et al** nor **Kurtz et al** nor **Oswald et al** disclose the polymeric material having a rheology such that the slope determined by linear least squares regression, of a plot of the natural log of loss modulus (G") versus natural log of storage modulus (G') is greater than [0.635*(melt index)+13.2]/[(melt index)+16.6], and wherein the polymeric material has a CDF RI fraction less than 0.23 of a GPC chromatogram which has a molecular weight above 85,000 g/mol, and a CDF LS fraction of more than 0.07 at a conventional GPC molecular weight of 1,750,000 g/mol or greater, MWD of greater than 10 and Mw(absolute)/Mw(GPC) ratio greater than 3.0. Though **Winslow et al** discloses the relationship between elasticity response ER, storage modulus G', loss modulus G", as being dependent upon MWD and/or long chain branching, however, it has been shown by Applicants in a filed Declaration under 35 CFR 1.132, that there is no direct relationship between ER of **Winslow et al** and slope S, as claimed in the instant invention.

14. An additional prior art search has uncovered further prior art references of interest: **Abe et al** (US 5,962,599) and **Backman et al** (US 6,441,096). **Abe et al** discloses a resin composition having improved processability comprising a copolymer of ethylene and an alpha-olefin, wherein the slope S of storage modulus G' in a frequency region of from frequency fc at which storage modulus G' and loss modulus G" agree with each other (Abstract); however, the ethylene copolymer of **Abe et al** comprises MWD of 3 or

less (Abstract) and MFR of 2 g/10 min or less (Table 1) and does not disclose ethylene copolymers having MWD of greater than 10, melt index of greater than 10 g/10 min and Mw(absolute)/Mw(GPC) ratio greater than 3.0, as claimed in the instant invention. **Backman et al** discloses a polymer composition comprising a low molecular weight ethylene copolymer fraction and a high molecular weight ethylene copolymer fraction, wherein a storage modulus G' at loss modulus G" of 5 kPa, of G' is equal or more than 3,000 Pa (Abstract). However, **Backman et al** fails to specify the ethylene copolymer composition having MWD of greater than 10 and Mw(absolute)/Mw(GPC) ratio greater than 3.0. Therefore, instant claims are allowable over additionally uncovered prior art as well.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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